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** SNFORMATION DISCLOSURI	Application Number	10/057,554	
STATEMENT BY APPLICANT	Filing Date	January 23, 2002	
NOV 1 9 2002	First Named Inventor	Laurence C. Chow	
T 5	Group Art Unit	1244 755	
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Examiner Cite No.		Document Number Number - Kind Code ² (# Innown)	Publication Date MM-DD-YYYY	Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
$\omega_{\parallel} \nu$		US3,679,360	7/25/72	· Rubin et al.	
1	Ι	US-3,787,900	1/29/74	McGee	
		US- 3,913,229	10/21/75	Driskell et al.	
	L.,	US- 3,929,971	12/30/75	Roy	
		US- 4,097,935	7/4/78	Jarcho	
		US- 4,497,075	2/5/85	Niwa et al.	
- 1		US-4,512,038	4/23/85	Alexander et al.	
		US- 4,599,085	7/8/88	Riess et al.	
1		US- 4,612,053	9/16/85	Brown et al.	
1		US-4,655,777	4/7/87	Dunn et al.	
		US- 4,680,610	11/14/89	Constantz et al.	
		US- 4,897,250	1/30/99	Sumita	
		US- 4,963,151	10/16/90	Ducheyne et al.	
		US- 5,034,059	7/23/91	Constantz et al.	
		US- 5,037,639	8/6/91	Tung	
\neg		US- 5,047,031	9/10/91	Constantz et si	**
		US- 5,053,212	10/1/91	Constantz et al.	
		US- 5,092,888	3/3/92	Iwamoto et al.	
		US- 5,129,905	7/14/92	Constantz et al.	
11.		US- 5,181,930	1/26/93	Dumbleton et al.	
ज्यस्ट		UŞ- 5,192,330	3/9/93	Chang et al.	

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W		Germany DE 4016135 A1	11/1999			
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1 31	First Named Inventor	Laurence C. Chow	
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				U.S. PATENT I		
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		IV	US-5,522,893	6/4/96	Chow et al.	
	7		US- 5,238,491	8/24/93	Sugihara et al.	
			US- 8,525,148	6/11/96	Chow et al.	
		П	US- RE 33,221	5/22/90	Brown et al.	
	ГΞ	П	US- RE 33,161	2/6/90	Brown et al.	
		П	US- 5,338,264	8/9/94	Constantz et al.	
	Г	П	US- 5,455,231	10/3/95	Constantz et si.	
	Т	П	US- 5,498,399	3/5/96	ison et al.	
		П	US- 5,542,973	8/6/96	Chow et al.	
		П	US- 5,545,254	8/13/96	Chow et al.	
			US- 5,556,687	9/17/96	McMillin	
			US- 5,652,056	7/29,97	Pepin	
		╗	US- 5,695,729	12/9/97	Chow et al.	
		П	US- 5,721,049	2/24/98	Marcolongo et al.	
	П		US- 5,766,618	6/16/98	Laurencin et al.	
		╗	US- 5,976,234	11/2/99	Chow et al.	
	П	П	US- 5,997,824	12/7/99	Chow et al.	
	П	٦	US- 6,077,989	6/20/00	Kandel et al.	
	40	J	US- 6,138,029	10/24/00	Johnson et al.	
	W	٧	US- 6,207,098	3/27/01	Nakanishi et al.	****

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CHU		US- 6,214,008	4/10/01	and .		
		US- 8,281,258	8/28/01	Harris et al.		
		US- 6,281,257	8/28/01	Ma et al.		
1.1		US- 6,287,341	9/11/01	Lee et al.		
ЦW		US- 6,325,992 B1	12/4/01	Chow et al.		
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Examiner Name

Attorney Docket Number

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		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
xaminer	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catelog, etc.), date, page(s), volume-issue number(s), published, city and/or country where published.	ť
MB		Briner, et al., "Significance of Enamel Remineralization", J. Dent. Res. 53:239-243 (1974)	
		Silverstone, "Remineralization Phenomena", Caries Res., 11 (Supp. 1): 59-84 (1977)	
		Brown, "Solubilities of Phosphates and Other Sparingly Soluble Compounds, from Griffith, et al., Environmental Phosphonous Handbook (John Wiley & Sons, New York 1973)	
		Miyazaki, et al., "An Infrared Spectroscopic Study of Cement Formation of Polymeric Calcium Phosphate, Cemera," Journal of Japanese Society for Dental Materials and Devices, Vol. II, No. 2, 1992	U
W)W		Brown, et al., "Crystallography of Tetracalcium Phosphate," J. Res. Nat. Bur. Stands. 69A: 547-551) (1965)	_
		Boom and Chow, Singular Points in the Granish to Different HABR-Abstract Now120, 1. Denta-Res-44m	-
- · \		74 (1975)	
كالر		Driskell, et al., "Development of Ceramic and Ceramic Composite Devices for Maxillofacial Application", J. Blomed, Mat. Res. 6: 345-361 (1972)	
		Gethard et al, "Rehardening of Artificial Enamel Lesions in Vivo", Carica Res. 13: 80-83 (1979)	
V		Gregory, et. al., "Solubility of CaHPO,2H ₂ O in the System Ca(OH) ₂ – H ₂ O ₄ at 5, 15, 25, and 37.5 *C," J. Res. Nat. Bur. Stand. 74A: 461-475 (1970)	
M		Gregory, et al., "Solubility of - Co ₂ (PO ₂), in the System Co(OH) ₂ -H ₂ PO ₄ -H ₂ O at 5, 15, 25 and 37°C," L Res. Nat. Bur. Stand. 78A: 667-674 (1974)	
-1		Hism et al. "Root Prenaration I Observation of Pentinal Tubules in Treatment of Root Hypersensitivity",	
$\overline{}$		J. Periodontal 43: 373-380 (1972)	
Ally (Levine, "Remineralization of Natural Carious Lesions of Enamel in vitro," Brit. Dont. L. 137: 132-134 (1974).	
		McDowell, et al., "Solubility of - Ca ₂ (PO ₂), in the System Ca(OH), - H ₂ PO ₄ H ₂ O at 5, 15, 25 and 37°C," J. Res. Nat. Bur. Stand. 81A:273-281 (1977)	
Chi		McDowell, et al., "Solubility Study of Calcium Hydrogen Phosphate. Ion Pair Formation," Inorg. Chem. 10:1638-1643 (1971)	

"EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant.

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		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, cit) and/or country where published.	Tª
SYM		Moreno, et al., "Stability of Dicalcium Phosphate Dihydrate in Aqueous Solutions and Solutility of Octacalcium Phosphate," Soil Sci. Soc. Att., Proc., 21: 99-102 (1960)	
		Patel, et al., "Solubility of CaHPO ₄ 2H ₂ O in the Quaternary System Ca(OH) ₂ - H ₃ PO ₄ -NaCl-H ₂ O at 25°C," I. Res. Nat. Bur. Stands, 78A: 675-681 (1974)	
		Pickel, et al. "The Effect of a Chewing Gum Containing Dicalcium Phosphate on Salivary Calcium and Phosphate", Ala. J. Mcd. Sci. 2: 286-287	
	`	Zimmerman, et. al., "The Effect of Remineralization Fluids on Carigus Lesions in Vitro," IADR Abstract No. 282 (1979)	
		Guide to Dental Materials and Devices, 7th Ed. (ADA 1974) pp. 49-64	
		Brown, et al., (1988): "A New Calcium Phosphate, Water Setting Cement," Cements Research Progress 1986, P.W. Brown, Ed., Westerville, Ohio: American Ceramic Society, pp. 352-379	
		Chohayeb, A.A., et al., (1983): Evaluation of Calcium Phosphare as a Root Canal Sealer-Filler Material, 1. Eaded 13, 384-386 (9-1987)	
		Hong, et al., (1989): The Periapical Tissue Reactions to a Calcium Phosphate Cement in the Teeth of Monkeys, L. Dent Res (submitted)	
		Constantino, et al. (1989): Evaluation of a New Hydroxyapatite Cement: Cranioplasty in a Cat Model, The Fifth International Symposium on Facial Plastic Reconstructive Surgery of the Head and Neck, Toronto, Canada ** Toronto, Canada **	
		De Rijk, et al. (1986): Clinical Evaluation of an Hydroxyapatife Precipitate for the Treatment of Dentinal Hypersensitivity, <u>Biomedical Engineering V. Recent Developments</u> . Proc of 5th Southern Biomedical Engineering Conference, Subrata Saha, Ed., New York: Pergamon Press, pp. 336-319	
		Grunninger et al. (1984): Evaluation of the Biocompatibility of a New Calcium Phosphate Setting Cernent, J. Dent Res., 63 (Special Issue) Abst. No. 270	
Whi		Hanker et. al., (1987): Calcium Phosphate Bindrs for Hydroxyapasite Particles for Bone Reapir, <u>J. Dent</u> Res. 66, Abst. No. 1144	
		Lu. et al. (1981): New Attachment Following the World State on Phosphete Sustain, L. Dent Res. Res 67: 352, Abst. No. 1913	
-		Schieber, et. al., (1338) Remineralization of Root Caries Lesion by a Galetium Phosphate Sturry J. Dent. Res. Of Appl., (1029)	

Examiner Signature	Worr	Date Considered	5/12/03	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

C mplete if Known **Application Number** 10/057.554 Filing Date January 23, 2002 First Named Inventor Laurence C. Chow Group Art Unit 1744 1755 **Examiner Name** W050 Attorney Docket Number 10118.00012

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Plas and Recon Surg 84, 2:236-244, 1989 Kenney, et al. (1988): The Use of a Porous Hydroxyapatite Implant in Periodontal Defects, J. Periodontal. pp. 67-72 Feb. 1988 Zide et al (1987): Hydroxyapatite Cranioplasty Directly Over Dura, I. Oral Maxillofac Sura 45:481-486. Waite, et al. (1986): Zygomatic Augmentation with Hydroxyapatite, <u>I. Oral Maxillofac Surg</u> 44:349-352, 1986 **X** Verwoerd, et al. (1987): Porous Hydroxyapstite-perichondrium Graft in Cricoid Reconstruction, Acta Otolaryngol (Stockh) 1987; 103:496-502 Grote, (1984): Tympanoplasty With Calcium Phosphate, Arch Otolaryngology 110:197-199, 1984 💫 Kent, et al. (1983): Alveolar Ridge Augmentation Using Nonresorbable Hydroxyapatjt, With or Without Autogenous Cancellous Bone, J. Oral Maxillofac Surg 41:629-642, 1983 Piecuch (1986): Augmentation of the Atrophic Edentulous Ridge with Porous Replantage of Hydroxyapatite (Interpore-200), Dental Clinica of North America 30, 2:291-305, 1986

Examiner Signature	000 W	Date Considered	5/12/03
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Misch (1987): Maxillary Sinus Augmentation for Endosteal Implants: Organized Alternative Treatment

Chow, L.C., "Calcium Phosphate Materials: Reactor Restonse" Adv Dent Res 2(1): 191-184, August Fukase, et al., "Setting Reactions and Compressive Strengths of Calcium Phosphate Cements", 1 Dent Res

Pians, Int J Oral Implant 4, 2:49-58, 1987

69(12):1852-1856, December 1990 ...

the month

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First Named Inventor Laurence C. Chow Group Art Unit 1714 1753 WOOR Examiner Name 10118.00012 Attorney Docket Number

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Head & Neck Surgery, Vol. 119, pp. 185-90 (Feb. 1993).

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Complete if Known					
Application Number	10/057,554				
Filing Date	January 23, 2002				
First Named Inventor	Laurence C, Chow				
Group Art Unit	1714 1768				
Examiner Name	W001				
Attorney Oocket Number	10118.00012				

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(a), volume-issue number(d), publisher, city and/or country where published.	T2
M)	Constantino, et al., "Experimental Hydroxyapatite Cement Cranioplasty," Plastic and Reconstructive Surgery, Vol. 90 No. 2, pp. 174-85 (Aug. 1992).	
		Sanin, et al., K. Ishikawa, S. Takagi, L.C. Chow and E.D. Eanes, "Effects of Additives on Setting Reaction of Calcium Phosphate Cement," IADR Abstr. #666 J. Dent Res. 71 189 (1992).	
		Driessens, et al. (1993) "New Apatite Calcium Phosphare Bone Cement: Preliminary Results," in Bioceramics (Ducheyne & Christiansen, eds.) Butterworth-Heinemann Ltd., Vol. 6, pp. 469-473.	
		Miyazaki, et al. (1993) "Polymeric calcium phosphae cements: analysis of reaction products and properties," Dent.Mater. 9:41-45.	
		Miyazaki et al,(1993) "Polymeric calcium phosphate cements: setting reaction modifiers," Dent Mater.	
		Chow et al., (1994) "Formulation of Hydroxyapatite in Cement Systems," in Hydroxyapatite and Belated Materials (Brown & Constanz, eds.), CRC Press: Boca Raton, FL pp.127-137.	
		Constantz, et al. (1995) "Skeletal Repair by Situ Formation of the Mineral Phase of Bone," Science 267: 1796-1798.	
		Chow and Takagi, (1995) "Rate of Dissolution of Calcium Phosphate Cements," J. Dent. Res. 24:537 (IADR Abstract #1094).	
		Takagi and Chow (1995) "Formation of Macropores in Calcium Phosphate Cement Implants," J. Dent. Res. 74:537 (IADR Abstract # 1272)."	
		Horioglu, et al., [1995]. "Composite Implant of Hydroxyapatite Cement/Osteogenic Protein-1 In Experimental Cranial Construction: Preliminary Results," Transactions of the 21st Annual Secting for the Society for Biomaterials, San Francisco, CA, March 18-22, p. 72.	
		Driessens, et al., (1993) "Effective formulations for the preparation of calcium phosphate bone cements," J. Mater. Sci.: Mater. Med. 5:164-170.	
		Fernandez, et al., 1994, "Common Ion Effect on some Calcium Phosohate Cements," Clinial Mater.16:99- 103.	
		Matsuya, et al., [1990]. "Formation of Hydroxyapation a Polymeric Calcium Phosphate Coment, Proc. Int. Conf. Comp. Eng.	
W)		Bermudez, et al., Optimization of Calcium Orthophosphae Cement formulation occurring in the combination of monocalcium phosphate mpnohydrate with calcium oxide, J. Mater.ScilMater Med 5:67-71 (1974)	

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Application Number 10/057,554

Filing Date January 23, 2002

First Named Inventor Laurence C. Chow

Group Art Unit 1714 1735

Examiner Name 10118,00012

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Sheet 9 of 13

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Abstract (1991). Sanin et al., "Particle Size Effects on pH and Strength of Calcium Phosphate Cement", IADR Abstract (1991). Link et al., "Composite of Calcium Phosphate Cement and Genetically Engineered Protein Bioadhesive", IADR Abstract (1991). Matsuya et al., "Effects of pH on the Reactions of Tetracalcium Phosphate and Dicalcium Phosphate", IADR Abstract (1991). Chow et al., "X-ray Diffraction and Electron Microscopic Characterization of Calcium Phosphate Cement Setting Reactions", IADR Abstract (1987). Sugawara et al., "An In Vitro Study of Dentin Hypersensitivity Using Calcium Phosphate Cement", Jour of Jap. Soc. For Dent. Mats & Devices, Vol. 8, No. 2(1989) Mirtchi et al., "Calcium Phosphate Cements: Action of Setting Regulars on the Properties of the 6-tricalcium Phosphate-Monocalcium Phosphate Cements" Biomaterials, Vol. 10, pp. 634-38 (1989). Cherng et al., (1995). "Effects of Gelling Agents on Calcium Phosphate Cements, J. Dent. Res., 74:242 (IADI Abstract, No. 1845).

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Under the Peperwon Compl te if Known **Application Number** 10/057,554 **INFORMATION DISCLOSURE** Filing Date January 23, 2002 STATEMENT BY APPLICANT First Named Inventor Laurence C. Chow Group Art Unit 124 1753 W350 W (use as many sheets as necessary) **Examiner Name**

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U	li)		Horioglu et al. 1993, "Long-Term Follow-Up of Hydroxyapatite Cement (HAC) Implant for Craniofacial Construction", Transactions of the 21 Annual Meeting for the Society of Biomaterials, San Francisco, CA, March 18-22, Page 198.	
U	y) u)	Fujikawa et al., (1995), "Histopathological Reaction of Calcium Phosphate Cement in Periodontal Bone Defect", <u>Dent. Mater. J.</u> 10:45-57.	
ap	3		Sugawara et al., (1995) "Histopathological Reaction of Calcium Phosphara Cement Root Canal Filler", L. Hard Tissue Biology, 4:1-7.	
			Contantino et al. (1989): Evaluation of a New Hydroxyapatite Cement: Basic Chemistry and Histology. The Print Informational Symposium on Facial Plastic Reconstructive Surgery or me right and Neck, Toronto, Canada.	
			Friedman et al. (1989): Evaluation of a New Hudroxymatite Cement: Obligeration and Reconstruction of the Cat Frontal Sinus, The Fifth International Symposiums on Facial Plastic Reconstructive Surgery of the Head and Neck, Toronto, Canada.	
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W	12		Shors et al., "Porous Hydroxyapatite", An Introduction to Bioceramics, pp. 181-198. NO DATE	
7			Fukase et al., "Setting Reactions and Compressive Strengths of Calcium Phosphate Cements", <u>I Dent Res</u> 6 (12): 1852, December (1990)	
	П		Matsuya et al., "Effect of Fluoride on Apatite Formation From Ca ₄ (PO ₄)2O in 0.1 mol L ⁻¹ KH ₂ PO ₄ , <u>I Mat</u> Sci: Materials in Medicine 9 (1998) pp. 325-331.	
			Chang et al., "Osteoconduction at Porous Hydroxyapatite with Various Pore Configurations", Biomaterials 21 (2000) 1291-1298.	
			Chow et al., "Calcium Phosphase Cements", Cements Research Progress, (1999) pp. 215-238.	•
			Xu et al., "Calcium Phosphate Cement Containing Resorbable Fibers for Shorts Torm Reinforcement and Macroporosity", <u>Biomaterials</u> 0 (2001) 1-10.	
	,		Xu et al., "Strong and Macroporous Calcium Phosphate Cement: Effects of Porosity and Fiber Reinforcement on Mechanical Properties", Macroporous Calcium Phosphate Cement, pp. 1-10.	
N K	()	-	Chow, "Calcium Phosphate Cements: Chemistry, Properties and Applications", Mat. Res. Soc. Sump. Proc., Vol. 599 (2000)	

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Complete if Known				
Application Number	10/057,554			
Filing Date	January 23, 2002			
First Named Inventor	Laurence C. Chow			
Group Art Unit	1714 1 750			
Examiner Name	WOOD			
Attorney Docket Number	10118.00012			

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alr		Takagi et al., Formation of Macropores in Calcium Phosphate Coment Implants", J. Mat. Sci: Materials in Medicine, 12 (2001) 135-139.	
		Von Gonten et al., "Load-Bearing Behavior of a Simulated Craniofacial Structure Fabricated From a Hydroxyapetite Cement and Bioresorbable Fiber-Mesh" <u>I. Mater. Sci.: Materials in Medicine</u> , 11 (2000) 95-100.	
		Xu et al., "Effects of Fiber Length and Volume Fraction on the Reinforcement of Calcium Phosphan Censent", J. Mater. Sci. Materials in Medicine, 12 (2001) 57-65.	
		Xu et al., "Reinforcement of a Self-Setting Calcium Phosphate Cement with Different Fibers", <u>Journal o Biomedical Materials Research</u> , October 2000, Vol. 51, No. 1, pp. 107-114,	
		Suchanek et al., "Processing and Properties of Hydroxyapatite-Besed Biomaterials for use as Hard Tissur Replacement Implants", J. Mater. Res., Vol. 13, No. 1, January 1998, pp. 94-117.	
		Simske, et al., "Porous Materials for Bone Engineering", Materials Science Forum, Vol. 250 (1997) pp. 151-182.	
		LeGeros, "Biodegradation and Bioresorption of Calcium Phosphate Ceramics", Clinical Materials, 14 (1993) pp. 65-88.	
		Friedman et al., "BoneSource Hydroxyapatite Cement: A Novel Biomannial for Craniofacial Skeletal Tissue Engineering and Reconstruction", Hae For Tissue Engineering and Reconstruction, pp. 428-432.	
		Takagi et al., "Morphological and Phase Characterizations of Retrieved Calcium Phosphate Cement Implants", (2006) pp. 36-41. (2001)	
		Ishikawa et al., "Reaction of Calcium Phosphate Cements With Different Amounts of Tetracalcium Phosphate and Dicalcium Phosphate Anhydrous", <u>CPC With Different TIC PIDCPA Motar Ratios</u> , pp. 504-510.	
		Miyamoto et al., "Histological and Compositional Evaluations of Three Types of Calcium Phosphate Cements When Implanting in Subcutaneous Tissue Immediately After Alixing," Three CPCs in Soft Tissue.	
		Constantz et al., "Histological, Chemical, and Crystallographic Analysis of Four Calcium Phosphate Cement in Different Rabbit Osseous Sites", Calcium Phosphate Cements, 1998, pp. 451-461. [1997]	F
		Ginebra et al., "Setting Reaction and Hardening of an Apatitic Calcium Phosphate Cement", J. Dent. Res., 76 (4): 905-912, April 1997.	
SIM		English Translation, Japanese Examiner's Citation to References, February 2, 1999.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete If Known Application Number 10/057.554 Filing Date January 23, 2002 First Named Inventor Laurence C. Chow Group Art Unit JZ14 / 755 Examiner Name WOOK Attorney Docket Number 10118.00012

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Article 1: 145-160 (1960). Termine et al., "Calcium Phosphate in vitro", Chem. Abstracts, Vol. 73, Abstract No. 126985a, (1970) Yasue et al, "Synthesis and Characteristics of Amorphous Calcium Carbonate in Ethanot", Fac. Sci Eng Nihon Univ. Gypsum Lime/1985) 198 245-52 Japan. Bowen et al., "Development of an Adhesive Bonding System", Operative Dentistry, Supplement 5 (1993), pp 75-80. Yu et al., "Self-Setting Hydroxyapatite Cement: A Novel Skeletal Drug-Delivery System for Antibiotic", J Pharm. Sci., Vol. 81, No. 6, June 1992, pp. 529-531. de Groot, "Ceramics of Calcium Phosphates: Preparation and Properties". Bioceramics of Calcium Phosphate, pp. 99-114. NO nar

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

	Complete if Known
Application Number	10/057,554
Filing Date	January 23, 2002
First Named Inventor	Laurence C. Chow
Group Art Unit	1214 [353
Examiner Name	(A) (A) (A)
Attorney Docket Number	10118.00012

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STATEMENT BY APPLICANT

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Initals '	Cite No.1	Number - Kind Code ² (# known)	Publication Date MM-DD-YYYY	Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
$u_{i} \omega$		US-5,976,234 A	11/02/1999	Chow et al.	Entire document
-		US- 5,522,893 A	06/04/1995	Chow et al.	Entire document
		US-4,518,430 A	05/21/1985	Brown et al.	Entire document
		US- 5,962,028 A	10/05/1999	Constantz	Particularly columns 5 and 6
		US- 5,782,971 A	07/21/1998	Constantz et al.	Particularly columns 4 and 5
ادیا_		US-4,486,403 A	12/04/1984	Mechanic et al.	Particularly columns 3 and 4
$\mathcal{L}^{\mathcal{U}}$		US- 5,236,456 A	08/17/1993	O'Leary et al.	Entire document
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Initials*	No.1	Country Code ² - Nurriber ⁴ - Kind Code ⁵ (# known)	Publication Date MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear	T ⁰

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